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Conidiating colonial strains suitable for replication

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Abstract

Conidiating colonial strains suitable for replication

Perkins, D. D. Conidiating colonial strains

that are homozygous fertile and suitable for replication.

Replication of the conidiating colonial strains cr (crisp, B123) and rg cr (ragged, crisp 853, B123) has been described by Maling (1960 J. Gen. Microbiol. 23: 257). cr x cr crosses are fertile, but colonies are too large to make it worthwhile to replicate directly

from ascospore platings. rg cr colonies are smaller and replicate well with velveteen or filter paper, but rg cr x rg cr crosses are sterile, so that applications are limited to conidial platings. Maling employed cr effectively to study recombination by using a 32-pronged replicator and specially prepared master plates. rg cr or derivative microconidiating strains (rg cr; pe fl) have been used for selecting auxotrophic (Maling) and radiation-sensitive mutants (Chang and Tuveson 1967 Genetics 56: 801; Schroeder 1970 Mol. Gen. Genet. 107: 291).

I have found another combination of genes that seems to possess the favorable features of both cr and rg cr. When sn (snowflake, C136; Mitchell 1959 Genetics 44: 847) is combined with cr (B123), the double mutant is homozygous fertile, and sn cr ascospores or conidia form compact conidiating colonies similar to rg cr, that plate and replicate efficiently. (sn, like rg, is located close to the centromere of linkage group I not far from cr). Although sn cr hasn't yet been tried out in actual mutant hunts or recombination experiments, its potential usefulness prompts this preliminary account.

Crosses are conveniently made in 15 cm tubes on slants of minimal synthetic cross media using mixed suspensions of sn cr A and sn cr a conidio. Perithecia are abundant but mature rather slowly, and ascospores are oozed but not shot from the ostioles. Ascospores from well-aged crosses were suspended, surface-spread and heat-shocked on pm-poured plates. The colonies resemble those of rg cr figured by Maling, and conidiate and pigment well. Conidia do not become airborne. Well over 100 colonies per plate should be resolvable when replicated as described by rg cr by Maling (filter paper) or Schroeder (velveteen).

m cr stocks of both mating types have been deposited with the Fungal Genetics Stock Center (FGSC #2001 and 2002). - - -
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